Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Big Snowy Resources, LP
Well Name/Number: Spaeth #11
Location: NE NE SW Section 26 T3S R24E
County: Yellowstone **, MT; Field (or Wildcat)** Mosser Dome

Air Quality

(possible concerns)
Long drilling time: No, 2 to 3 days drilling time.
Unusually deep drilling (high horsepower rig): No, will drill with a small single derrick drilling rig to 1020' TD.
Possible H2S gas production: None anticipated.
In/near Class I air quality area: Closest Class I air quality area is the Crow Reservation, about 7.5 miles to the southeast from this location.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:
_X_ Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: No special concerns – using small rig to drill to 1020' TD.

Water Quality

(possible concerns)
Salt/oil based mud: No, freshwater or freshwater mud system and/or air.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest drainages are an unnamed ephemeral tributary drainage to Davis Creek, about 3/8 of a mile to the northeast, an unnamed ephemeral drainage to Davis Creek, about 3/8 of a mile to the northwest and Little Cottonwood Creek, an ephemeral tributary drainage to Cottonwood Creek, about 3/8 of a mile to the southeast from this location.
Water well contamination: No, closest water well is about 1/4 of a mile to the southwest from this location. Depth of this water well is 450' deep well. If productive 4 ½" production casing will be cemented to surface.
Porous/permeable soils: No, silty sandy clay soils.
Class I stream drainage: No, Class I stream drainages in the area of review.

Mitigation:
__ Lined reserve pit
_X_ Adequate surface casing

__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 24' of surface casing cemented to surface adequate to protect freshwater zones. Also, air and/or fresh water mud systems to be used. 4 ½" production casing will be cemented to surface. _____

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No, stream crossings anticipated.__
High erosion potential: No high erosion potential. No cut and no fill required. Small self leveling drilling rig will be used. _
Loss of soil productivity: No, location will be restored after drilling if nonproductive and if productive unused portion of the drillsite will be reclaimed.
Unusually large wellsite: No, 80'X80' location size required. _
Damage to improvements: Slight, surface use CRP field. __
Conflict with existing land use/values __Slight

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
__ Other _____

Comments: __Surface access will be over existing county roads and existing lease roads. Cuttings will be buried in the earthen pit. Fluids will be allowed to evaporate. Pit will be backfilled when dry. No special concerns

_____

Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Yes, residence, about 1/4 of a mile to the northeast from this wellsite, Rawhouser home and ranch . _____
Possibility of H2S: No H2S anticipated during the drilling of this well to the Moser Sand producing zone (Greybull Formation). _____
Size of rig/length of drilling time: Small drilling rig/short 2 to 3 days drilling time.

Mitigation:
__ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements

__ Other:_____

Comments: No BOP required if drilled with mud. BOP requirement under 36.22.1014 is waived. This is due to the area being a high drilling density to the Moser Sand (Greybull formation) and bottom hole pressure being depleted from production. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: one identified.

Creation of new access to wildlife habitat : No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Black-footed Ferret and the Whooping Crane. Candidate species are the Greater Sage Grouse and the Sprague's Pipit. MTFWP Natural Heritage Tracker website indicates three (3) species of concerns. They are the Black-tailed Prairie Dog, Greater Sage Grouse and the Yellow-billed Cuckoo. __

Mitigation:

__ Avoidance (topographic tolerance/exception)

__ Other agency review (DFWP, federal agencies, DSL)

__ Screening/fencing of pits, drillsite

__ Other:_____

Comments: Private surface lands. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified_____

Mitigation

__ avoidance (topographic tolerance, location exception)

__ other agency review (SHPO, DSL, federal agencies)

__ Other:_____

Comments: Surface location is private land. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

__ Substantial effect on tax base

__ Create demand for new governmental services
__ Population increase or relocation
Comments: _No concerns._Existing oil field, Mosser Domer Oil Field.

Remarks or Special Concerns for this site

__Well is a 1020' Moser Sand (Greybull Formation) test

Summary: Evaluation of Impacts and Cumulative effects

__No long term impact expected. Some short term surface impacts will occur, but will be mitigated in time. A development oil well in an existing oil field, the Mosser Dome Oil Field.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): _/s/Steven Sasaki _____
(title:) Chief Field Inspector_____
Date: February 23, 2012_____

Other Persons Contacted:

_____
Montana Bureau of Mines and Geology, GWIC
website_____
(Name and Agency)
Water wells in Yellowstone County___

_____
(subject discussed)
February 23, 2012_____
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Yellowstone County
(subject discussed)

February 23, 2012_____
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T3S R24E
(subject discussed)

February 23, 2012_____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection:_____